



Australian Government

Department of Education, Employment and Workplace Relations

NWP105B Draw and use simple maps, plans and drawings

Revision Number: 2

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Modification History

NWP105B Release 2: Layout adjusted. No changes to content.

NWP105B Release 1: Primary release.

Unit Descriptor

This unit of competency describes the outcomes required to read and interpret maps, plans and drawings and prepare a simple map or plan.

Application of the Unit

This unit supports the attainment of skills and knowledge required for those who are preparing to enter or considering entry to occupations in water resource management or undertaking assignment and field work related to water research. The candidate will be assisted by partnership with a water industry organisation. There are opportunities to integrate delivery and assessment of this unit with mainstream high school programs (mathematics, science, geography, physics, engineering and English). The unit may be applied in a work-like or educational environment.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit of competency contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency. Performance criteria describe the required performance needed to demonstrate achievement of the element. Where ***bold italicised*** text is used, further information is detailed in the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Interpret maps, plans and drawings	1.1 Find out what <i>types of maps, plans and drawings</i> are used to support work tasks. 1.2 Check and interpret <i>key features of maps and site plans</i> and commonly used symbols and abbreviations. 1.3 Explain function of the legend. 1.4 Check and explain natural and man-made features on maps, plans and drawings.
2 Use maps and plans	2.1 Explain the <i>orientation of sites</i>. 2.2 Follow a map or plan to find identified features in the real world. 2.3 Calculate real world distances using maps and plans with a range of scales.
3 Draw a map or plan	3.1 Prepare a simple map or plan, including selecting tools and equipment and a workable scale, key and abbreviations. 3.2 Take real world measurements and record features on a drawing. 3.3 Use field notes and measures to draw a local area map.

Required Skills and Knowledge

This describes the essential skills and knowledge and their level, required for this unit.

Required skills:

- read and interpret plans, drawings and specifications
- measure accurately
- communicate effectively
- work effectively as part of a team
- use literacy skills for verbal and written communication in the workplace
- use information provided in maps, plans and drawings to complete a job

Required knowledge:

- the range of maps, plans and drawings to different assignment situations
- measurements and calculations
- features of maps, plans and drawings such as:
 - contours
 - datum points
 - planes
 - gradients
 - sections
 - orthographic projections
 - symbols
 - dimensions
 - terminology

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, the range statement and the Assessment Guidelines for the Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

The candidate should demonstrate the ability to read and interpret maps, plans and drawings and prepare a simple map or plan including:

- interpreting all relevant information on maps, plans and drawings to facilitate assignment or project.
- preparing a simple map or plan that represents a real world local environment.

Context of and specific resources for assessment

Access to resources including:

- library, water enterprise information, information sources for research and investigation
- mentors, advisors and teachers able to guide and support research and investigation of water resource management
- guided visits to key locations associated with water resource management

Access must be provided to appropriate learning and assessment support.

Assessment processes and techniques must take into account language, literacy and cultural factors which might have an impact on the candidate's demonstration of competency.

Validity and sufficiency of evidence requires that:

- competency will need to be demonstrated over a variety of assignments and activities reflecting the scope and practical requirements of research and practical assignments
- assessment can be through assignments, projects, excursions and simulated project-based activity and must include evidence relating to each of the elements in this unit

In all cases where practical assessment is used it will be combined with targeted questioning to assess underpinning knowledge.

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. ***Bold italicised*** wording, if used in the performance criteria, is detailed below. Add any essential operating conditions that may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts.

Types of maps, plans and drawings may include:

- urban and rural topographical maps
- site plans and elevations
- process flow sheets
- survey plans
- sectional plans and elevations
- channel drainage plans
- pipe system plans
- location of assets plans

Key features of maps and site plans will include combinations of:

- shape and orientation of site
- roads
- railways
- easements
- existing buildings and structures
- services, including:
 - drainage
 - sewerage
 - gas
 - water
 - electricity
 - telecommunications
- dimensions
- grades of pipelines and channels
- tree preservation orders
- geographical features
- power and transmission lines
- heritage and cultural features
- types of structures, including:
 - buildings
 - bridges
 - fabricated towers
 - fences
 - pipelines
 - regulators
 - poles

- environmental barriers
- environmental features, including:
 - fauna and flora habitats
 - cultural features
 - heritage features
 - water catchments
 - shape of structure and building
 - service requirements
 - location of plant and equipment
 - vertical and horizontal measurements
 - clearance distance
 - geological features
 - service layouts
 - bore and casing details

Orientation of sites may include:

- relationship to north
- currency of plan
- relationship between plan and site

Unit Sector(s)

Not applicable.